

**Draft
Environmental Impact Statement
for the
Proposed Rule on
Environmental Impact Assessment of
Nongovernmental Activities in
Antarctica**



February 2001

**United States
Environmental
Protection Agency**

**Office of
Federal Activities**

**DRAFT
ENVIRONMENTAL IMPACT STATEMENT
for the**

***Proposed Rule on
Environmental Impact Assessment of
Nongovernmental Activities in Antarctica***



Please send comments on this DEIS to either:

B. Katherine Biggs
EPA, Office of Federal Activities
1200 Pennsylvania Avenue, N.W. (MC 2252A)
Washington, D.C. 20460
PH: (202) 564-7144
Fax: (202) 564-0072

Joseph Montgomery
EPA, Office of Federal Activities
1200 Pennsylvania Avenue, N.W. (MC 2252A)
Washington, D.C. 20460
PH: (202) 564-7157
Fax: (202) 564-0072

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Summary

**Draft Environmental Impact Statement
for the U.S. Environmental Protection Agency's
Proposed Rule on
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Nongovernmental Activities in Antarctica**

SUMMARY

Public Law 104-227, the Antarctic Science, Tourism, and Conservation Act of 1996 (the Act), amends the Antarctic Conservation Act of 1978, 16 U.S.C. 2401 *et seq.*, to implement the Protocol on Environmental Protection (the Protocol) to the Antarctic Treaty of 1959 (the Treaty). The Act provides that EPA promulgate regulations to provide for:

... the environmental impact assessment of nongovernmental activities, including tourism, for which the United States is required to give advance notice under Paragraph 5 of Article VII of the Treaty, and

... coordination of the review of information regarding environmental impact assessments received from other Parties under the Protocol.

On April 30, 1997, the Environmental Protection Agency (EPA) promulgated an Interim Final Rule that establishes requirements for the environmental impact assessment of nongovernmental activities and coordination of the review of information regarding environmental impact assessment received by the United States, as specified above. EPA issued the Interim Final Rule without public notice or an opportunity for public comment. In doing so, EPA stated its plans for public comment in the development of the final regulations. The final rule will be proposed and promulgated in accordance with the provisions of the Administrative Procedure Act (5 U.S.C. 553) which requires notice to the public, description of the substance of the proposed rule and an opportunity for public comment. Further, EPA committed to prepare an Environmental Impact Statement (EIS) to consider the environmental impacts of the proposed rule and alternatives, and that would address the environmental and regulatory issues raised by interested agencies, organizations, groups and individuals. The purpose of this EIS is to describe and analyze the alternatives for the final rule including EPA's preferred alternative.

EPA has identified five alternatives for the final rule based on its experience with the Interim Final Rule and the comments and information received during scoping. The five alternatives for the final rule described and analyzed by EPA include the following:

Alternative 1: No Action Alternative - Promulgate the Interim Final Rule as the final rule

Alternative 2: Preferred Alternative - Interim Final Rule with certain procedural and administrative modifications

Alternative 3: Interim Final Rule with modifications beyond those considered to be procedural or administrative

Alternative 4: “Substantive” rule

Alternative 5: “Discretionary” rule

Alternative 1, the “No Action” Alternative, would propose to promulgate the Interim Final Rule as the final rule.¹ The other four alternatives involve modifications to the Interim Final Rule.

As part of the scoping process, EPA considered ten specific issues along with any other relevant issues raised by the public.² The public comments received, or lack of comments, were the basis for identifying any issues which were not considered significant and thus did not require detailed analysis.³ The issues considered significant and that needed detailed analysis were grouped into three categories,⁴ and each of the issues in these categories was developed into a proposed modification within one or more of the Alternatives. These proposed modifications were then analyzed in detail the first time each occurred in an Alternative. In some cases, EPA for reasons of completeness, addresses issues which the U.S. government does not have authority to implement because they are inconsistent with the provisions of the Protocol, EPA and other federal agencies lack statutory authority under the Act to issue regulations incorporating such provisions, and because the Act requires that the regulations be consistent with Annex I to the Protocol with respect to nongovernmental activities. Many of the issues for which the U.S. government does not have authority to implement were raised by the public during scoping.

¹ EPA initially suggested not promulgating a final rule as a No Action Alternative (F.R. 62 No. 90). However, this is not an acceptable alternative because it does not meet the purpose and need to which EPA is responding in proposing the alternatives including the proposed action. EPA is directed by the Act to promulgate such a rule because such regulations are necessary so that the U.S. has the ability to implement its obligations under the Protocol.

² The ten issues raised by EPA during scoping were: (1) Time frames for environmental documentation submittal and review; (2) Level of definition of EPA’s review criteria; (3) Appropriate monitoring regime, if any; (4) Options for streamlining documentation requirements; (5) Mitigation: what measures and for which activities; (6) Cumulative impacts; (7) Possible “categorical exclusions;” (8) Public comment on IEEs; (9) Reconsideration of the process for review of environmental documents received from other Parties; and (10) Reevaluation of the paperwork projections in the Interim Final Rule.

³ Issues were not considered significant if EPA did not receive conflicting, negative, or otherwise substantive comment on them.

⁴ These three categories are: issues related to the requirements to be applied to operators and EPA’s role in the EIA process for nongovernmental operators (Category A); issues concerning the scope of the application of the final rule and consideration of other Parties’ requirements (Category B); and process-oriented issues (Category C).

Because this is a regulatory action, the consequences of the selected alternative may entail consequences that are not explicitly environmental in nature but that affect the efficacy, and thus the ultimate environmental impacts, of the rule. Thus, the assessment of the consequences associated with each of the alternatives included assessment of the potential environmental consequences and assessment of other potential consequences.⁵ The potential environmental consequences were assessed within the following context:

- The natural and physical environment of Antarctica and its dependent and associated ecosystems;
- The nature of the nongovernmental activities being undertaken by U.S.-based operators in Antarctica, including those of ship-based tour operators;
- The potential for environmental impacts on the Antarctic environment and its dependent and associated ecosystems by the activities undertaken by U.S. nongovernmental operators, primarily ship-based tour operators in the Peninsula area; and
- The domestic statutes and regulations, relative to the Antarctic Treaty System, that already govern the activities of U.S.-based nongovernmental operators in Antarctica.⁶

The alternatives were also assessed regarding other consequences that included the following:

- The ability of the alternative to ensure that the U.S. is able to comply with its obligations under the Protocol;
- Assurance that the regulations would be, as directed by the Act, “consistent with Annex I to the Protocol;”
- The ability of the alternative to ensure consistency between the governmental⁷ and nongovernmental EIA processes; and

⁵ Because the five alternatives are variations of the Interim Final Rule and thus, Alternative 1, the “No Action” alternative, the assessment of the environmental and other consequences for Alternative 1 was based on the assessment of the these consequences for the Interim Final Rule with projection of this assessment into the out-years. The assessment of the consequences for the other four alternatives was then based on comparisons with the consequences assessment for Alternative 1.

⁶ The United States accomplishes compliance with its obligations under the Antarctic Treaty System through domestic legislation and regulations which govern the actions of persons subject to the jurisdiction of the United States. Pertinent statutes include the: Marine Mammal Protection Act, 16 U.S.C. §1371 *et seq.*; Antarctic Marine Living Resources Conservation Act (AMLRCA) of 1984, 16 U.S.C.A. §§2431-2444; Antarctic Conservation Act of 1978 (ACA), Public Law 95-541, as amended, 16 U.S.C. §2401 *et seq.*; Antarctic Science, Tourism, and Conservation Act of 1996, Public Law 104-227, that amended the ACA; and the Act to Prevent Pollution from Ships (APPS), Public Law 96-478, 33 U.S.C. §1901 *et seq.*, that implements MARPOL 73/78.

⁷ As managed by the National Science Foundation for all U.S. government activities under the U.S. Antarctic Program.

- The burden imposed on the operators.⁸

Alternative 1, the “No Action” Alternative, would propose to promulgate the Interim Final Rule as the final rule without modification except for changing the effective date of the rule and making necessary edits.⁹ The environmental consequences, including cumulative impacts, for Alternative 1 are most likely to be no more than minor or transitory in the context of the Protocol. Therefore, for purposes of this EIS, the impacts of Alternative 1 are unlikely to have ‘significant’ environmental consequences. With regard to other consequences, Alternative 1 ensures that the U.S. is able to comply with its obligations under the Protocol; assures that the regulations would be, as directed by the Act, “consistent with Annex I to the Protocol;” provides for consistency between the governmental and nongovernmental EIA processes; and does not impose undue burden on the operators.

Alternative 2, EPA’s preferred alternative, would modify the Interim Final Rule to respond to suggestions for certain changes in the EIA process including changes that would ensure consistency between the governmental and nongovernmental EIA processes and that could reduce the time and cost of the EIA process for the nongovernmental operators. Under Alternative 2, the following modifications would be incorporated into the Interim Final Rule:

1. Make necessary technical modifications and edits (see Alternative 1, footnote 8).
2. Add a provision allowing operators to submit multi-year EIA documentation to address proposed expeditions for a period of up to five austral summer seasons.¹⁰

⁸ EPA is concerned that the final rule not place undue burden on operators, including small business operators. Should this occur, there is a potential for one or more U.S.-based operators to move their operations to another country, including a country not Party to the Treaty. A move to another country cannot be ruled out given the international nature of the tour industry. Adverse consequences on the Antarctic environment could be created if the final rule has the effect of driving U.S.-based operators to countries not Party to the Protocol. If this were to happen, in most circumstances there would be no obligation on the part of the operator to comply with the planning processes delineated in Article 8 and Annex I of the Protocol leading to decisions about any activities undertaken in the Antarctic Treaty area.

⁹ Necessary edits would include: changing the mailing address to be used for submitting EIA documentation, removing the schedule for CEEs for the 1998-1999 season (Section 8.8(b)(1)), and updating the paperwork projections based on the current number of operators (Preamble VII).

¹⁰ The multi-year EIA documentation provision would eliminate the need for annual submission of EIA documentation with the exception of an annual advance notice and confirmation that the information provided in the multi-year EIA document are unchanged; the basic information requirements at 40 CFR 8.4(a) parallel the advance notice information operators submit to the Department of State. If there are changes in the planned activities or assessed impacts, including cumulative impacts, that need to be addressed, then environmental documentation would need to be submitted for that year. The paperwork burden for this submission could be minimized if the operator employed one or more of the paperwork reduction provisions now in Section 8.4d(d) of the Interim Final Rule since these would also be part of the final rule under Alternative 2.

3. Add a definition, or other provision, that would establish a threshold for “more than a minor or transitory impact.”¹¹

The environmental consequences, including cumulative impacts, for Alternative 2 are most likely to be no more than minor or transitory in the context of the Protocol. Therefore, for purposes of this EIS, these impacts are unlikely to have a ‘significant’ effect. With regard to other consequences, Alternative 2 ensures that the U.S. is able to comply with its obligations under the Protocol; assures that the regulations would be, as directed by the Act, “consistent with Annex I to the Protocol;” ensures consistency between the governmental and nongovernmental EIA processes; and does not impose undue burden on the operators.

Alternative 3 describes modifications to the Interim Final Rule beyond those of Alternative 2 that are considered to be procedural or administrative, but does not go as far as Alternatives 4 and 5 in changing the basic approach set out in the Interim Final Rule. These modifications are based on issues raised in the scoping process. Under Alternative 3, the following modifications, which are inconsistent with the provisions of the Protocol and for which there is no legal authority under the Act,¹² would be incorporated into the Interim Final Rule:

1. Incorporate all three of the procedural and administrative modifications proposed under Alternative 2.
2. Broaden the definition of operator to include foreign operators “doing business in the United States.” If this is not feasible, then apply the final rule to all U.S. citizens going to Antarctica on nongovernmental expeditions.¹³

¹¹ The term “more than a minor or transitory impact” would have the same meaning as “significantly affecting the quality of the human environment,” the same threshold definition applied to EIA of governmental activities in Antarctica thus ensuring regulatory consistency between the governmental and nongovernmental EIA requirements.

¹² Alternative 3 is one of the Alternatives that incorporates modifications related to issues raised during scoping which EPA, for reasons of completeness, is addressing even though the U.S. government does not have authority to implement because they are inconsistent with the provisions of the Protocol, EPA and other federal agencies lack statutory authority under the Act to issue regulations incorporating such provisions, and because the Act requires that the regulations with respect to nongovernmental activities be consistent with Annex I to the Protocol. These three Alternatives are included for purposes of public disclosure. However, the U.S. government does not advocate pursuing these Alternatives.

¹³ Article 8 requires Parties to ensure that the assessment procedures set out in Annex I are applied to “...tourism and all other ... nongovernmental activities in the Antarctic Treaty area for which advance notice is required under Article VII(5) of the Antarctic Treaty” Article VII(5) provides that a Party must give notice for “... all expeditions to and within Antarctica, on the part of its ships or nationals, and all expeditions to Antarctica organized in or proceeding from its territory.” Similarly, the Act explicitly requires environmental impact assessments of nongovernmental activities organized in or proceeding from the U.S. for which the United States is required to give advance notice under Article VII(5) of the Treaty. Thus, for purposes of the Act, the United States

3. Require that EIA documentation demonstrate compliance with other applicable provisions of the Protocol and relevant U.S. statutes.¹⁴

The environmental consequences, including cumulative impacts, for Alternative 3 are most likely to be no more than minor or transitory in the context of the Protocol. Therefore, for purposes of this EIS, these impacts are unlikely to have a ‘significant’ effect. With regard to other consequences, Alternative 3 ensures that the U.S. is able to comply with its obligations to require EIA documentation under the Protocol. However, modification 2 is not generally consistent with the Protocol, and modifications 2 and 3 are not required in order for the U.S. to ensure that it is able to comply with its obligations under the Protocol, nor would they be “consistent with Annex I to the Protocol,” as directed by the Act. Modification 3 would impose obligations and undue burden on U.S. nongovernmental operators not required under Annex I or the Act, and it would not be consistent with the EIA process or requirements applied to U.S. governmental entities.

Alternative 4 would modify the Interim Final Rule to include substantive requirements in association with the environmental documentation requirements for nongovernmental activities in Antarctica, and to provide for federal direction over the level of environmental document required. Under Alternative 4, the following modifications, which are inconsistent with the provisions of the Protocol and for which there is no legal authority under the Act,¹⁵ would be incorporated into the Interim Final Rule:

can assert jurisdiction over operators only where the relevant expedition is organized in or proceeding from the United States. It is conceivable that a non-U.S. based operator could conduct such a level of activity within the United States that it could be deemed to be organizing an activity in the United States, and thus the United States would have jurisdiction in such a circumstance. Nevertheless, mere sale of tickets by a foreign operator, for example, would not rise to the level of organizing an expedition in the United States. In these circumstances, EPA believes that a provision amending the definition of “operator” to any foreign operator merely “doing business in the United States” would be too broad and thus inconsistent with the Treaty’s requirement that the expedition be organized in or proceeding from the United States.

¹⁴ Such a provision is not required by Annex I or the Act. Further, certain provisions of the Act are the responsibility of other federal agencies. The environmental documentation provides a useful mechanism to identify whether a proposed activity raises issues under other obligations of the Protocol or domestic law which need further review by the responsible authority. Based on its experience to date, EPA does not believe that a blanket requirement to demonstrate compliance would necessarily reduce environmental impacts. Such a provision would impose obligations and a burden on U.S. nongovernmental operators not required under Annex I or the Act, nor would it be fully consistent with the U.S. governmental EIA requirements regarding U.S. governmental activities in Antarctica.

¹⁵ Alternative 4 is one of the Alternatives that incorporates modifications related to issues raised during scoping which EPA, for reasons of completeness, is addressing even though the U.S. government does not have authority to implement because they are inconsistent with the provisions of the Protocol, EPA and other federal agencies lack statutory authority under the Act to issue regulations incorporating such provisions, and because the Act requires that the regulations with respect to nongovernmental activities be consistent with Annex I to the Protocol. These three Alternatives are included for purposes of public disclosure. However, the U.S. government does not advocate pursuing these Alternatives.

1. Incorporate all three of the procedural and administrative modifications proposed under Alternative 2.
2. Incorporate the two additional modifications proposed in Alternative 3.
3. Add a substantive requirement that compliance with the provisions of Article 3 of the Protocol be demonstrated in EIA documentation.¹⁶
4. Add a provision which would allow the federal government to prevent an activity from proceeding if anticipated impacts are determined to be unacceptable. If a substantive provision cannot be included in the final rule, include a provision to require insurance and bonding to ensure corrective actions are taken where the impacts of a nongovernmental action cause actual environmental harm.¹⁷
5. Add a provision for public notice and comment on IEEs similar to the process for CEEs.¹⁸
6. Add a provision to require a CEE when any new landing sites are included, or are proposed as possible landing sites, in the itinerary of expeditions by nongovernmental operators.¹⁹

¹⁶ Under the Act, the U.S. government does not have any authority to prevent activities for which proper environmental assessments have been undertaken provided the proposed activities are not otherwise in conflict with U.S. law. Further, Article 3 of the Protocol is implemented through the Annexes to the Protocol and is not capable of direct implementation. Thus, it in and of itself does not impose mandatory requirements. Moreover, Article 8 provides for an EIA process but does not impose substantive requirements. Therefore, the two substantive modifications proposed under Alternative 4 are inconsistent with the Protocol and the Act. Further, because NEPA is the model for governmental EIAs in Antarctica, the proposed substantive elements would result in an inconsistency with the way that EIA provisions are applied to governmental and nongovernmental operators. Also, based on EPA's assessment of the impacts from current and anticipated out-year nongovernmental activities, the proposed substantive modifications would likely not result in substantial environmental benefits.

¹⁷ See footnote 15. Further, an insurance and bonding requirement is not required under Annex I, nor is it consistent with it since Annex I contemplates activities that may have impacts that could be more than minor or transitory (e.g., CEE-level activities); it would impose obligations and undue burden on U.S. nongovernmental operators not required under Annex I or the Act.

¹⁸ Requiring public notice and comment on IEEs would not necessarily reduce environmental impacts, but would impose obligations and undue burden on U.S. nongovernmental operators not required under Annex I or the Act, and would not be consistent with the EIA requirements that apply to U.S. governmental entities.

¹⁹ The conclusion that a CEE should be prepared in every case is not supported since there is not a scientific basis for concluding that any visit to a new site would always have the likelihood of a greater than minor or transitory impact. Such a provision would not necessarily reduce environmental impacts, but would impose obligations and undue burden on U.S. nongovernmental operators not required under Annex I or the Act, and would not be consistent with the EIA requirements that apply to U.S. governmental entities.

The environmental consequences, including cumulative impacts, for Alternative 4 are most likely to be no more than minor or transitory. Although substantive provisions could reduce the level of consequences, particularly for CEE-level activities, substantive provisions are not consistent with the Protocol and EPA lacks statutory authority to impose substantive requirements. With regard to other consequences, Alternative 4 ensures that the U.S. is able to comply with its obligations to require EIA documentation under the Protocol. However, certain of the proposed modifications are not required in order for the U.S. to ensure that it is able to comply with its obligations under the Protocol, nor would they be, as directed by the Act, “consistent with Annex I to the Protocol.” Further, certain modifications would not be consistent with the EIA process or requirements that apply to U.S. governmental entities, and several of the proposed modifications would impose obligations and undue burden on U.S. nongovernmental operators not required under Annex I or the Act.

Alternative 5 would modify the Interim Final Rule by eliminating EPA’s responsibility for making a finding with the concurrence of the National Science Foundation that the documentation submitted does not meet the requirements of Article 8 and Annex I and the provisions of the regulations. Under Alternative 5, the following modifications, which would not adequately ensure that the U.S. is fulfilling its obligations under the Protocol,²⁰ would be incorporated into the Interim Final Rule:

1. Incorporate all three of the procedural and administrative modifications proposed under Alternative 2.
2. Eliminate the provisions in the Interim Final Rule that provide for EPA to make a finding with the concurrence of the National Science Foundation that the documentation submitted does not meet the requirements of Article 8 and Annex I of the Protocol and the provisions of the regulations.²¹
3. Eliminate the enforcement provision in the Interim Final Rule.²²

²⁰ Alternative 5 is one of the three Alternatives that incorporate modifications related to issues which EPA included for reasons of completeness. Alternative 5 incorporates modifications under which the U.S. government would not be able to ensure that its obligations under the Protocol would be fulfilled. These three Alternatives are included for purposes of public disclosure. However, the U.S. government does not advocate pursuing these Alternatives.

²¹ Elimination of this responsibility eliminates the U.S. government’s ability to ensure that the United States is able to comply with its obligations under the Protocol.

²² In keeping with the discretionary nature of Alternative 5, the enforcement provision would be eliminated.

4. Eliminate the preliminary environmental review provision in the Interim Final Rule.²³
5. Add a provision to provide for an automatic reciprocity when environmental documentation prepared for other Parties is submitted by a U.S.-based operator.²⁴
6. Add a provision for “Categorical Exclusions” including a categorical exclusion for Antarctic ship-based tourism conducted according to the “Lindblad Model.”²⁵

The environmental consequences, including cumulative impacts, for certain of the modifications under Alternative 5 have the potential to be greater than would otherwise be indicated by the level of EIA documentation prepared by the operator. With regard to other consequences, even though Alternative 5 would provide maximum reduction of burden on the operators, it would not: ensure that the U.S. is able to comply with its obligations under the Protocol; assure that the regulations would be, as directed by the Act, “consistent with Annex I to the Protocol;” or ensure consistency between the governmental and nongovernmental EIA processes.

EPA’s Preferred Alternative: EPA’s preferred alternative is Alternative 2, the Interim Final Rule with certain procedural and administrative modifications. Selection of Alternative 2 for proposed promulgation would be consistent with and implement the EIA provisions of Article 8 and Annex I to the Protocol. This Alternative would ensure that nongovernmental operators identify and assess the potential impacts of their proposed activities, including tourism, on the Antarctic environment; that operators consider these impacts in deciding whether or how to proceed with proposed activities; and that operators provide environmental documentation pursuant to the Act and Annex I of the Protocol.²⁶ Alternative 2 would reflect a decision to continue with a procedural rule

²³ Based on past experience, EPA does not believe that eliminating the PERM provision would allow EPA, and thus the U.S. government, to ensure that the assessment procedures set out in Annex I are appropriately applied in the planning processes leading to decisions about any activities undertaken in the Antarctic Treaty area.

²⁴ It is the responsibility of the United States to comply with its obligations under the Protocol. Thus, while this is a “workable” provision, the U.S. government would need to determine whether, in an appropriate case, it should rely on the regulatory procedures of another Party.

²⁵ The proposal to categorically exclude Antarctic ship-based tourism conducted under a “Lindblad Model” does not fit well with the approach used by the U.S. government for categorical exclusions because it does not identify actions to be excluded in sufficient detail. Further, more needs to be known about potential cumulative impacts of nongovernmental activities undertaken by U.S.-based ship-based tour operators before deciding to exclude some or all of these specific activities. A categorical exclusion provision could, however, be an amendment to the final rule in the future if one or more appropriate categorical exclusions are identified.

²⁶ Alternative 2 retains the definitions of “operator” and “persons” and the approach in the Interim Final Rule of not applying the requirements of the rule to individual U.S. citizens where the individual is not acting as an operator. Alternative 2 would also carry forth the provision of the Interim Final Rule at Section 8.2(c) that the final rule would “... not apply to activities undertaken in the Antarctic Treaty area that are governed by the Convention on the Conservation of Antarctic Marine Living Resources or the Convention for the conservation of Antarctic Seals.

which does not impose obligations beyond preparation of the EIA documentation and the associated assessment and verification procedures. This Alternative retains EPA's authority with the concurrence of the National Science Foundation to make a finding that the documentation submitted does not meet the requirements of Article 8 and Annex I of the Protocol and the provisions of the regulations. If an operator chooses to mitigate and the mitigation measures are the basis for the level of environmental documentation, EPA assumes the operator will proceed with these mitigation measures. Otherwise, the documentation may not have met the requirements of Article 8 and Annex I and the provisions of the regulations. This Alternative would retain an enforcement provision that it is unlawful for any operator to violate the regulations.

This is the alternative EPA believes would best fulfill its statutory mission and responsibilities giving consideration to:

- The ability to ensure that the U.S. is able to comply with its obligations under the Protocol;
- The need for the regulations to be, as directed by the Act, "consistent with Annex I to the Protocol;"
- The preference to ensure consistency between governmental and nongovernmental EIA processes and regulations;
- The assessment of the environmental and other consequences of the alternatives;
- The current voluntary standards of the U.S.-based Antarctic tour industry; and
- Concern that U.S.-based operators continue to do business as U.S. operators and not move their Antarctic business operations to a non-Party country because of any undue burden imposed by the final rule.

Persons traveling to Antarctica are subject to the requirements of the Marine Mammal Protection Act, 16 U.S.C. 1371 *et seq.*"

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ACRONYMS

ACA	Antarctic Conservation Act of 1978, 16 U.S.C. 2401 <i>et seq.</i>
Act	Antarctic Science, Tourism, and Conservation Act of 1996
AMLRCA	Antarctic Marine Living Resources Conservation Act
ANI	Adventure Network International
APA	Administrative Procedure Act
C	centigrade
CCAMLR	Convention for the Conservation of Antarctic Marine Living Resources
CEE	Comprehensive Environmental Evaluation
CFCs	chlorofluorocarbons
cm	centimeters
DAP	La Linea Aerea de la Patagonia (Chilean regional airline)
EIAs	Environmental impact assessments
EIS	Environmental impact statement
EPA	Environmental Protection Agency
F	Fahrenheit
fps	feet per second
ft.	feet
HALW	Holland America Line-Westours, Inc.
IAATO	International Association of Antarctica Tour Operators
IEE	Initial Environmental Evaluation
IGY	International Geophysical Year
in.	inches
km	kilometers
kph	kilometers per hour
m	meters
mi.	miles
MMPA	Marine Mammal Protection Act
mph	miles per hour
m/s	meters per second
mt.	metric tons
NEPA	National Environmental Policy Act
NO _x	nitrogen oxides

PERM Protocol	Preliminary Environmental Review Memorandum Protocol on Environmental Protection to the Antarctic Treaty of 1959
SASCO	Southern Australian Shipping Company
TAP/ASOC	The Antarctica Project/Antarctic and Southern Ocean Coalition
U.S.	United States
USAP	U.S. Antarctic Program
U.S.S.R.	Union of Soviet Socialist Republics
UV	ultraviolet radiation
UVB	midultraviolet radiation
WMF	White Mountain Films, LLC